



US009086489B2

(12) **United States Patent**
Patel

(10) **Patent No.:** **US 9,086,489 B2**
(45) **Date of Patent:** **Jul. 21, 2015**

(54) **PERSONAL AND AREA SELF-INDICATING
INSTANT RADIATION ALERT DOSIMETER**

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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 623 days.

(21) Appl. No.: **13/371,619**

(22) Filed: **Feb. 13, 2012**

(65) **Prior Publication Data**

US 2012/0181453 A1 Jul. 19, 2012

Related U.S. Application Data

(60) Division of application No. 11/930,529, filed on Oct.
31, 2007, now Pat. No. 8,115,182, which is a
continuation-in-part of application No. 10/545,796,
filed as application No. PCT/US2004/005860 on Feb.
26, 2004, now Pat. No. 7,476,874.

(60) Provisional application No. 60/450,267, filed on Feb.
27, 2003.

(51) **Int. Cl.**
G01T 1/04 (2006.01)
G01T 1/06 (2006.01)

(52) **U.S. Cl.**
CPC **G01T 1/04** (2013.01); **G01T 1/06** (2013.01)

(58) **Field of Classification Search**
USPC 250/474.1, 482.1, 484.4, 484.5
See application file for complete search history.

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(57) **ABSTRACT**

Described is a self-indicating instant radiation dosimeter
(1001) for monitoring high energy radiations, such as X-ray.
The dosimeter contains a radiation sensitive, color changing,
indicating composition (10), e.g., a diacetylene (R—C≡C—
C≡C—R', where R and R' are substituents groups) or a
radiochromic dye, a polymeric binder (20) and optionally a
shelf life extender (50) or an activator (40). The radiation
sensitive composition (10) changes color instantly when
exposed to high energy radiation. The dose is estimated by
comparing the color with a color reference chart or more
accurately with a spectrophotometer or an optical densitom-
eter. The radiation sensitive composition (10) is protected
from low energy radiation such as UV light, by a layer of low
energy absorbing materials, such as UV absorbers.

5 Claims, 16 Drawing Sheets

